Quantitative Research Findings and Implications

The raw data tabulations were analyzed by the Research Core Group for several reasons:

- to discover what *overall findings,* or observations, could be made from the quantitative data about consumers' comprehension, attitudes, behavior and satisfaction with labeling;
- to identify the *implications,* or connections, among the various findings related to a learning objective or topic area; and
- to evaluate labeling alternatives (for both registered and non-registered products) in the outdoor pesticides, indoor insecticides, and hard surface cleaner categories.

The Core Group hoped to be able to organize the findings in accordance with the learning questions and the topic areas studied in the quantitative research. Once in-depth analysis began, however, it became evident that the data leading to the findings were not clear-cut, but in fact overlapped with one or more of the learning objectives and topic areas.

Wherever possible in this report, findings and implications have been organized according to topic area. Data charts and tables follow the findings that they support; most charts are presented in both graphic and numerical formats. Implications of the findings are provided following the findings from which these have been drawn.

Learning Objectives and Topic Areas

The quantitative survey was designed to address six learning objectives identified by the CLI Partner and Task Force members at the beginning of Phase II.

Quantitative Learning Objectives

Determine the current situation relative to consumers' satisfaction with the format and content of existing labels;

Determine consumers' hierarchy of importance of basic label information;

Determine where on the label consumers expect to find particular information, such as First Aid and ingredients;

Determine consumers' current comprehension of label language;

Determine whether or not a preference exists for non-FIFRA over FIFRA labels (for household cleaner category only); and

Determine consumers' reaction to standardized safe use, environmental, health and safety information.

In addition to the learning objectives, the quantitative study also focused on the following topic areas:

Specific Topic Areas Addressed by the Quantitative Research

Consumer Education — What other sources of information, besides the product label, do consumers turn to for information about the product?

Product Ingredients — Do consumers understand the ingredient listing on products and know how to use this information?

Signal Words — Do consumers understand the signal word hierarchy for CAUTION, WARNING, and DANGER?

Storage and Disposal — What are consumers' current storage and disposal practices?

Precautionary Statements — What are consumers' understanding and use of precautionary statements?

Findings and Implications

Terminology

Findings are observations resulting directly from the quantitative survey results and are supported by the data.

Implications show connections among the various findings related to a topic or learning objective and are derived from consideration of the quantitative findings.

Findings on Respondents' Satisfaction with Existing Labels (Chart 2-1, Table 2-2)

In general, respondents expressed overall satisfaction with the product labels in the three product categories. However, when presented with specific alternate label formats or language preferences, they indicated a desire for specific changes.

Chart 2-1

HOW SATISFIED ARE YOU OVERALL WITH THE INFORMATION CURRENTLY AVAILABLE ON PRODUCT PACKAGING?

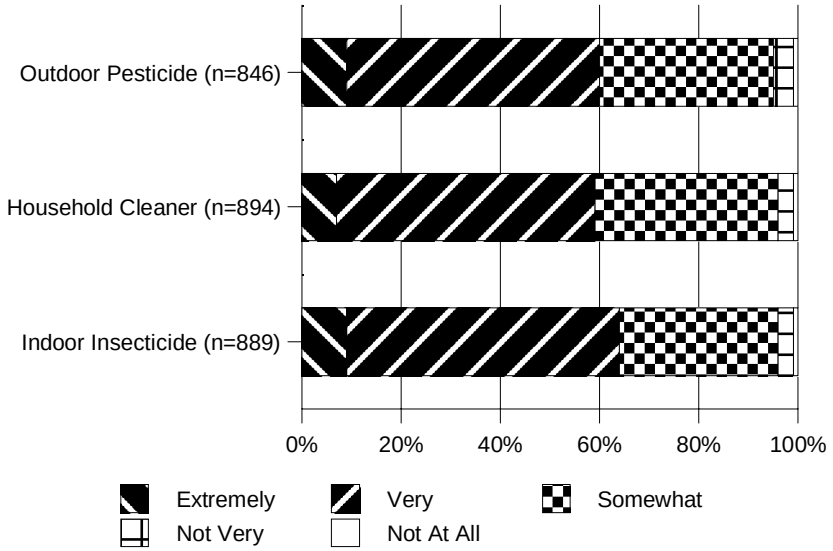


Table 2-2: How Satisfied Are You Overall With the Information Currently Available on Product Packaging? (%)					
	Extremely	**Very**	**Somewhat**	**Not Very**	**Not At All**
Outdoor Pesticide	9	51	35	4	1
Household Cleaner	7	52	37	3	1
Indoor Insecticide	9	55	32	3	1

(Base = All Respondents)

<u>Findings</u> on Respondents Comprehension of Existing Labels (Tables 2-3, 2-4, 2-5)

1. Overall respondents' comprehension of the label sections was high in all three product categories. A consistent exception to this finding is that over half of the respondents found the words in the ingredients section to be confusing.

2. The overwhelming majority of respondents for all three product categories said there were no confusing words or phrases in any of the various label sections. In the outdoor pesticides category, however, over one third said there were confusing words or phrases in the environmental hazards section.

3. In all three product categories, respondents preferred the alternative, revised statements over the existing label language, with only a few limited exceptions.

4. In each of the three product categories, comprehension of the label language was high, with just a few exceptions. However, there are noteworthy findings for Indoor insecticides and outdoor pesticide categories:

   - For *indoor insecticides* — nearly one-half of the respondents indicated that there was something confusing about the First Aid section of the label. A large majority of these respondents had difficulty with the phrase "gastric lavage is indicated if material is taken internally."

   - For *outdoor pesticides* — one-third of the respondents indicated confusion with the Environmental Hazards section. The phrase "This product is toxic to aquatic invertebrates" was mentioned most often as the source of this confusion.

5. Respondents were fairly definitive with regard to the preference for various statements tested related to household cleaners. In particular, each statement had two-thirds or more of the respondents preferring one alternative or the other. Please refer to the following table for a complete listing of statement preferences.

Table 2-3: Preference Statements for Household Cleaner Labels

% Preferring	Statement A	Statement B	% Preferring
66.8	For safe and effective use, read the label first	Use safely. Read the label before use	33.2
32.0	For safe and effective use, read the label first	Use only as directed on this label	68.0
87.4	Hazards to humans and animals	Effects on humans and animals	12.6
78.4	Environmental hazards	Effects on the environment	21.6
73.1	Avoid contact with eyes	Protect your eyes during application. Wear safety glasses.	26.9

6. While consumers exhibited strong preference for certain statements on indoor insecticide labels such as "Can be absorbed through skin" (97%) versus "Can be absorbed dermally" (3%), there was considerably less agreement on statements such as "Do not re-enter for X hours after application" (52%) versus "Allow X hours before re-entering treated rooms" (48%). Please refer to the following table for a complete listing of statement preferences.

Table 2-4: Preference Statements for Indoor Insecticide Labels

% Preferring	Statement A	Statement B	% Preferring
33.8	Repeat as needed	Apply no more than X treatments per week	66.2
24.5	Do not allow children or pet to contact treated areas	Keep children or pets out of treated areas for X minutes	75.5
41.7	For safe and effective use, read the label first	Use only as directed on this label	58.3
91.0	Hazards to humans and animals	Human and animal effects	9.00
85.5	Environmental hazards	Environmental effects	14.5
56.8	Avoid contact with eyes	Protect your eyes during application. Wear safety glasses.	43.2
48.0	Allow X hours before re-entering treated rooms	Do not re-enter for X hours after application	52.0
57.1	Use only in well-ventilated area	Open windows before use to provide free flow of air	42.9
30.4	Do not spray directly over food or utensils	Do not apply where spray may settle onto food or utensils	69.6
3.0	Can be absorbed dermally	Can be absorbed through skin	97

7. Consumers exhibited strong preferences for certain statements found on outdoor pesticide labels such as "Hazards to humans and animals" (96%) versus "Human and animal effects" (4%). There was considerably less agreement on statements such as "This pesticide can kill wildlife" (56%) versus "This pesticide is toxic to wildlife" (44%). Please refer to the following table for a complete listing of statement preferences.

Table 2-5: Preference Statements for Outdoor Pesticide Labels

% Preferring	Statement A	Statement B	% Preferring
35.0	Use safely. Read the label before use	Use only as directed on this label	65.0
96.3	Hazards to humans and animals	Human and animal effects	3.70
89.8	Environmental hazards	Environmental effects	10.2
6.10	Re-entry not allowed until sprays are dry	Do not re-enter treated area until spray has dried	93.9
27.9	Do not apply directly to water	Do not apply directly to lakes, streams, rivers, or ponds	72.1
14.5	Do not contaminate water when disposing of equipment washwaters or rinsate	Do not dump rinse water into sewers or other bodies of water	85.5
10.8	Do not contaminate water when disposing of equipment washwaters or rinsate	Do not dump leftover pesticide or rinse water into drains or sewers	89.2
3.90	Do not use where soils are permeable	Do not use where product may seep into ground water	96.1
11.7	Do not use where soils are permeable	Do not apply to sandy soils	88.3
44.2	This pesticide is toxic to wildlife	This pesticide can kill wildlife	55.8
41.0	This pesticide is toxic to wildlife and domestic animals	This pesticide may harm pets and wildlife	59.0
5.6	Do not apply when weather conditions favor drift from treated areas	Do not apply in windy conditions. Pesticides may drift away from application site	94.4
3.5	Pre-harvest Interval-allow X hours before picking or eating crops	Do not pick or eat garden crops for X hours after application	96.5
33.7	Drift or runoff may adversely affect fish and nontarget plants	Drift or runoff may unintentionally harm fish and plants	66.3
2.60	Phytotoxic to woody plants	Application may injure woody plants	97.4

Table 2-5: Preference Statements for Outdoor Pesticide Labels			
% Preferring	**Statement A**	**Statement B**	**% Preferring**
76.4	Wrap in paper and dispose of in trash	For information on safe disposal of unused product, contact a household hazardous waste program, or your local or state environmental agency	23.6
46.9	Do not apply where runoff can occur	Do not use on sloped areas when heavy rain is expected	53.1
22.3	Repeated contact may cause skin sensitization reactions in come individuals. Avoid contact with skin.	May cause skin allergies to develop. Avoid contact with skin	77.7

8. There were demographic differences in respondents' comprehension of the labels:
   - Respondents in higher income categories understood labels better.
   - Respondents at higher education levels understood labels better.
   - Respondents in the younger age categories understood labels better.

9. Ability to locate information on the label and comprehension of that information correlate positively with income and education and correlate inversely with age. This is true despite higher reported interest in label information among the elderly, less educated, and lower income participants in the survey.

10. Interest in specific information on labels (e.g., looking for information on harmful effects) correlates positively with understanding labels.

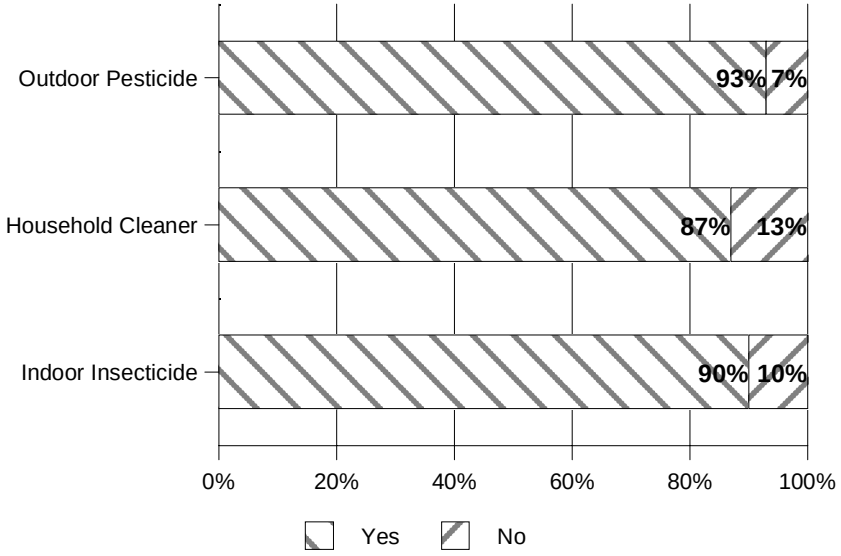
<u>Findings</u> on Respondents' Ease of Locating Information on Labels (Chart 2-2, Table 2-6, Table 2-7)

11. In all three product categories, an overwhelming majority of respondents indicated that the information on the label was where they expected it to be. Of those who did not find the information where they expected, the most popular suggestion was to put the ingredients on the back label. (For specific product information, see Charts 2-3 and 2-4 and Table 2-7.)

12. The information respondents found most difficult to locate on product labels were:
   - For *all three product categories* — where the product should not be used.
   - For *outdoor pesticides* — First Aid information and precautions to pets and the environmental effects for wildlife.
   - For *indoor insecticides* — precautions to personal health.

Chart 2-2

WAS ALL OF THE INFORMATION ON THE LABEL WHERE YOU EXPECTED IT TO BE?



(Base = All Respondents)

Table 2-6: Was All of the Information on the Label Where You Expected It To Be? (%)		
	Yes	**No**
Outdoor Pesticide	93	7
Household Cleaner	87	13
Indoor Insecticide	90	10

(Base = All Respondents)

Chart 2-3

ABILITY TO IDENTIFY EFFECTS
ON PERSONAL AND CHILDREN'S HEALTH OR SAFETY

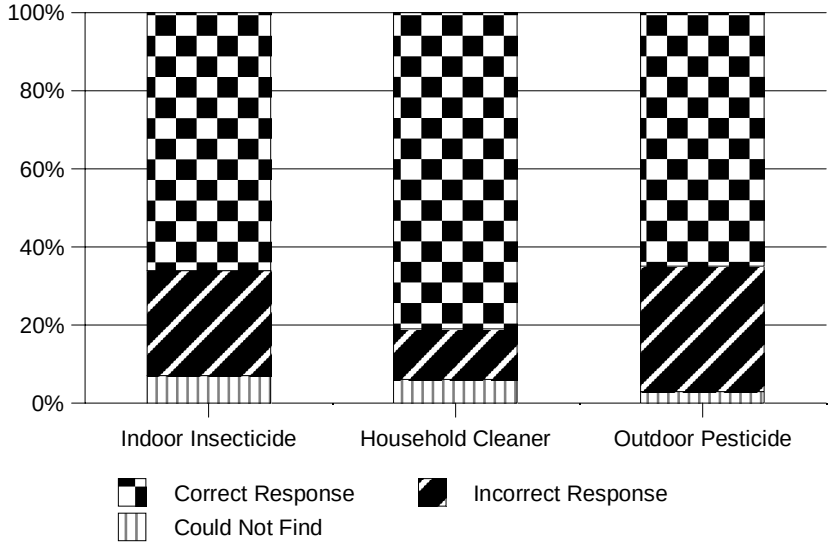


Table 2-7: Ability to Identify Effects on Personal and Children's Health or Safety (%)			
	Could Not Find	**Incorrect Response**	**Correct Response**
Outdoor Pesticide	3	32	65
Household Cleaner	6	13	81
Indoor Insecticide	7	27	66

(Base = All Respondents)

Chart 2-4

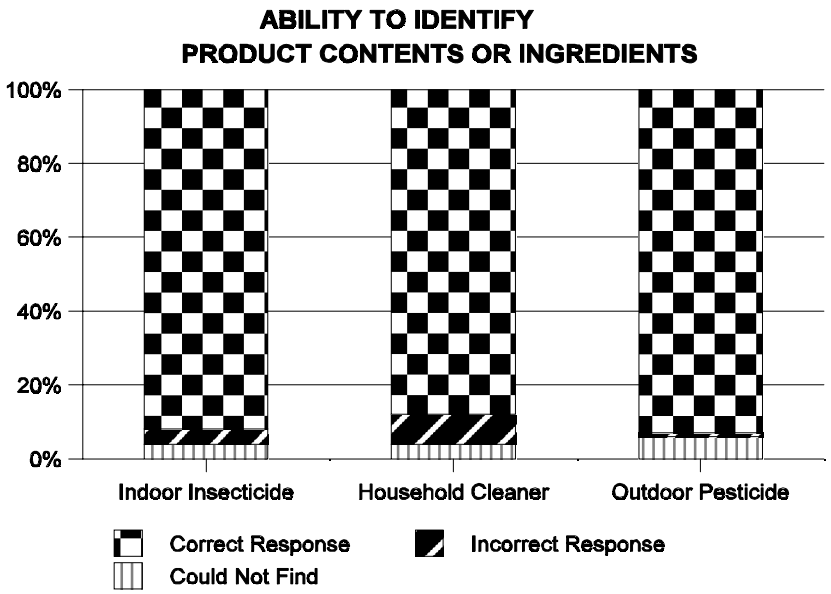


Table 2-8: Ability to Identify Product Contents or Ingredients (%)			
	Could Not Find	**Incorrect Response**	**Correct Response**
Outdoor Pesticide	6	1	93
Household Cleaner	4	8	88
Indoor Insecticide	4	4	92

(Base = All Respondents)

<u>Implications</u> Regarding Respondents' Comprehension of and Ease of Locating Information on Product Labels

A. There is a need to make certain label sections easier to find quickly.

B. There are ways in which label sections can be made easier to find quickly, read and comprehend.

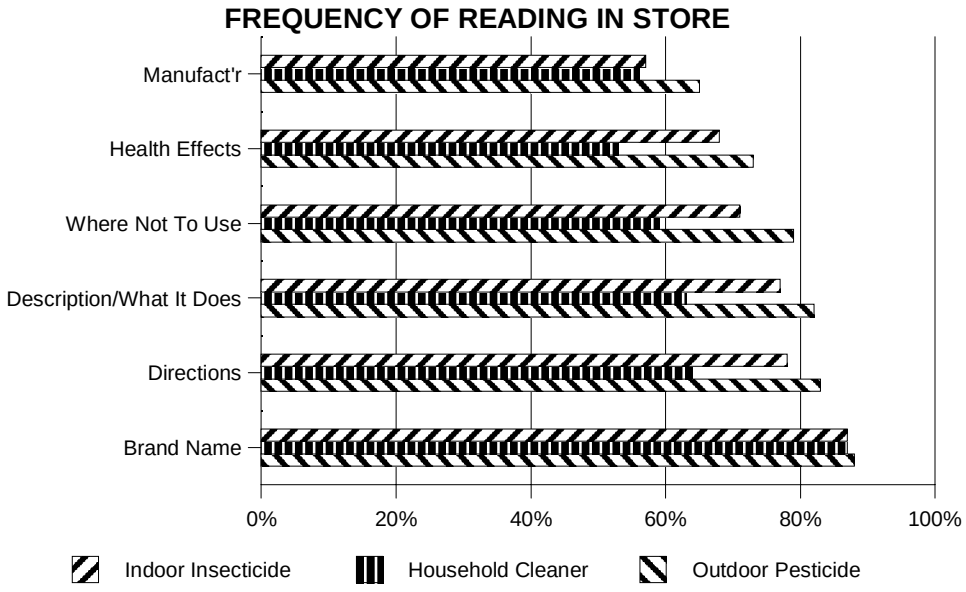
C. Most of the word and phrase revisions were preferred and would increase comprehension of the label.

<u>Findings</u> on Respondents' Hierarchy of Importance of Information on Product Labels (Chart 2-5, Chart 2-6, Table 2-9, Table 2-10, Table 2-11, Table 2-12, Table 2-13)

13. For all three product categories, the label information that respondents read in the store and before use included: brand name, directions for use, a description of what the product does, a description of where not to use the product, and precautions for the effects on personal and children's health.

14. The frequencies of reading labels were significantly higher among outdoor pesticides users followed by indoor insecticides users followed by household cleaners users. This is true for nearly all sections of the label.

Chart 2-5



(Base = All Respondents)

Table 2-9: Frequency of Reading in Store (%)						
	Brand Name	**Directions**	**Description/ What It Does**	**Where Not To Use**	**Health Effects**	**Manufacturer**
Outdoor Pesticide	88	83	82	79	73	65
Household Cleaner	87	64	63	59	53	56
Indoor Insecticide	87	78	77	71	68	57

Base = All Respondents

15. For the three product categories, respondents indicated that the following information is important, and they would like to locate it easily:

- Directions for use,
- Description of what the product does,
- Description of where not to use the product,
- Information about effects on personal and children's health (except for cleaners users), and
- Emergency information.

Table 2-10: What Information Found on the Packaging of Products Is Most Important to You?

Indoor Insecticide	Household Cleaner	Outdoor Pesticide
Directions on how to use the product **80%**	Directions on how to use the product **83%**	Directions on how to use the product **85%**
Description of what the product does **69%**	Description of what the product does **72%**	Description of what the product does **73%**
Information about effects on personal and children's health or safety **49%**	Information about where the product should not be used **52%**	Information about effects on personal and children's health or safety **48%**
Information on what to do in an emergency or in case of an accident **45%**	Brand Name **49%**	Information about where the product should not be used **46%**
Information about where the product should not be used **42%**	Information on what to do in an emergency or in case of an accident **48%**	Information on what to do in an emergency or in case of an accident **35%**

(Base = All Respondents)

16. In all three product categories, respondents always indicated that the least important information to them on current labels was the positive environmental claims statements (e.g., contains no CFCs, contains no phosphates) and the name of the manufacturer. In all three product categories, respondents ranked label information about disposal, storage, ingredients, and a consumer information phone number as the least important.

Chart 2-6

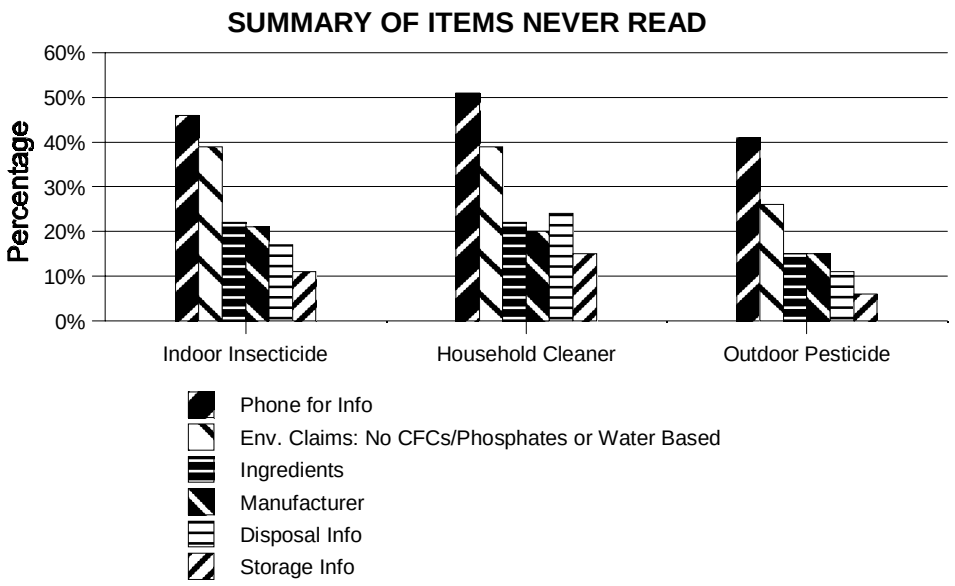


Table 2-11: Summary of Items Never Read (%)			
	Indoor Insecticide	**Household Cleaner**	**Outdoor Pesticide**
Phone for Info	46	51	41
Positive Environmental Claims: No CFCs/ Phosphates or Water Based	39	39	26
Ingredients	22	22	15
Manufacturer	21	20	15
Disposal Info	17	24	11
Storage Info	11	15	6

(Base = All Respondents)

17. For outdoor pesticides and indoor insecticides, respondents consistently indicated that they do not read or give importance to statements on environmental claims (e.g., contains no CFCs).

18. In all three product categories, there is a similarity between the label information perceived to be the most important and the information that respondents indicated that they wish to find most easily. The top three (in order of preference) are: (1) directions for use, (2) a description of what the product does, and (3) precautionary statements related to human health (please see Table 2-10).

Table 2-12: What Information Do You Want to Be Able to Find Most Easily?

Indoor Insecticide	Household Cleaner	Outdoor Pesticide
Directions on how to use the product **69%**	Directions on how to use the product **72%**	Directions on how to use the product **76%**
Description of what the product does **57%**	Description of what the product does **61%**	Description of what the product does **63%**
Information on what to do in an emergency or in case of an accident **47%**	Information on what to do in an emergency or in case of an accident **49%**	Information about where the product should not be used **44%**
Information about effects on personal and children's health or safety **43%**	Information about where the product should not be used **44%**	Information about effects on personal and children's health or safety **43%**
Information about where the product should not be used **36%**	Information about effects on personal and children's health or safety **39%**	Information on what to do in an emergency or in case of an accident **41%**

(Base = All Respondents)

Table 2-13: When Deciding Which Product to Purchase, Which of the Following Types of Information, If Any, Do You Look for?

Indoor Insecticide	Household Cleaner	Outdoor Pesticide
Product characteristics, such as non-staining, non-corrosive, won't scratch surface, low odor, etc. **63%**	Product characteristics, such as non-staining, non-corrosive, won't scratch surface, low odor, etc. **81%**	Will not harm wildlife, pets, fish **52%**
Will not harm wildlife, pets, fish **56%**	Non-flammable **44%**	Low potential for harming plants **49%**
Non-flammable **42%**	Container or packaging characteristics **23%**	Low potential for contaminating ground water **48%**
Low potential for harming plants **41%**	No phosphates **17%**	Packaging allows for reduced contact with the product **40%**
Packaging allows for reduced contact with the product **33%**	No CFCs **13%**	Non-flammable **36%**

(Base = All Respondents)

***Implications* Regarding Respondents' Hierarchy of Importance of Information on Product Labels**

A. Consumers regularly looked for the information that they regard as important: the product purpose and personal precautionary information.

B. People want to be able to find information they regard as important quickly. Any modifications of the label should allow this information to be easily identifiable.

C. Respondents were less concerned about label information relating to storage and environmental issues, including disposal information, environmental claims, and environmental effects.

***Findings* on Label Format (Chart 2-7, Table 2-14)**

19. After being given a description of different formats, respondents in all three product categories preferred a box format on the label, like the nutrition facts box, that presents information consistently among products in the same category.

Chart 2-7

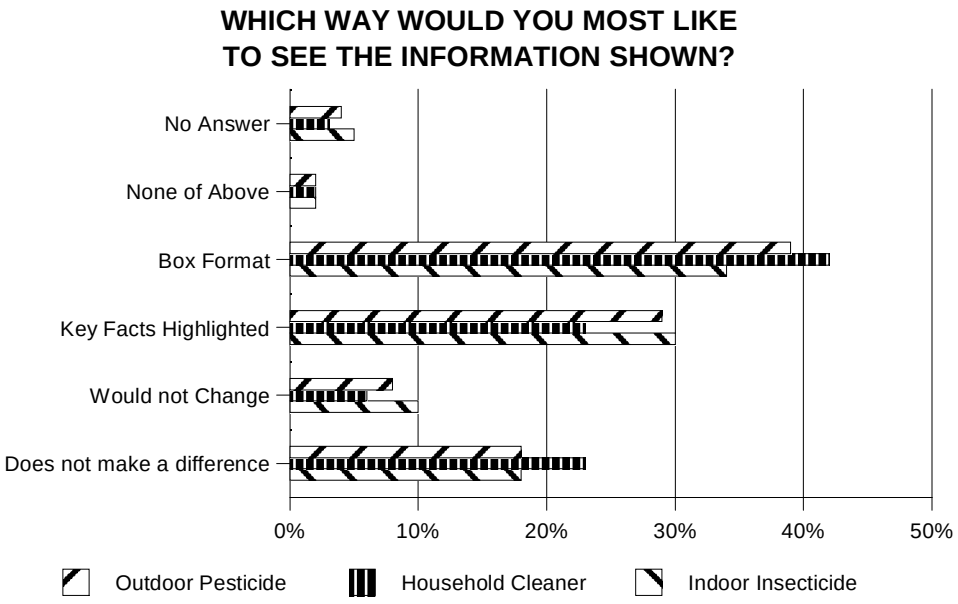


Table 2-14: Which Way Would You Most Like to See The Information Shown? (%)						
	Does not make a difference	**Would not Change**	**Key Facts High-lighted**	**Box Format**	**None of Above**	**No Answer**
Outdoor Pesticide n=846	18	8	29	39	2	4
Household Cleaner n=894	23	6	23	42	2	3
Indoor Insecticide n=889	18	10	30	34	2	5

(Base = All Respondents)

***Implications* Regarding Label Format**

A. Label comprehension can be improved by using standard formats.

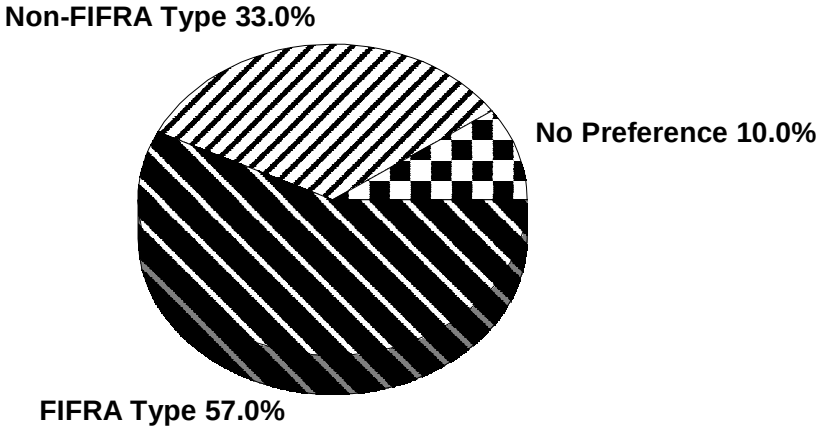
B. Ease of use encourages more frequent label reading.

Findings on Respondents' Preference for FIFRA versus Non-FIFRA Product Labels (Chart 2-8, Chart 2-9)[5]

20. Over half of the respondents in the household cleaner category preferred the FIFRA label (the type of label appearing on EPA registered products), including the overall label and the subparts on directions for use, where the product should not be used, effects on personal health, ingredients, storage, disposal, and emergency information, over the non-FIFRA label (labels appearing on non-registered, but similar, products).

Chart 2-8

WHICH OF THE TWO PRODUCT PACKAGES HAS THE TYPE OF INFORMATION YOU PREFER? (Household Cleaner)

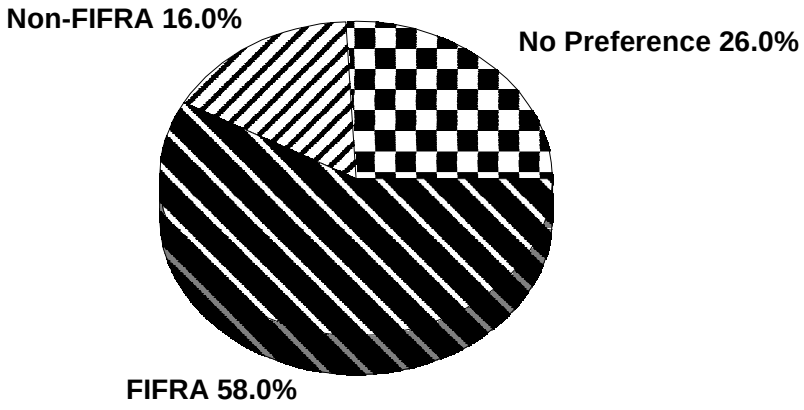


(Base = All Respondents)

[5] Non-FIFRA labels do not exist for the indoor insecticides and outdoor pesticides product categories.

Chart 2-9

FOR EACH TYPE OF INFORMATION, WHICH DO YOU PREFER REGARDING PRODUCT CONTENTS OR INGREDIENTS?



(Base = All Respondents)

<u>Implications</u> Regarding Respondents' Preferability for FIFRA versus Non-FIFRA Product Labels

A. Consumers desire specific types of information to appear on the product label.

<u>Findings</u> on Storage and Disposal Information (Chart 2-10, Chart 2-11, Chart 2-12, Table 2-15, Table 2-16, Table 2-17)

21. Outdoor pesticide and indoor insecticide users read the storage and disposal information significantly more than household cleaner respondents.

22. The most frequent reasons given for not reading storage and disposal information in the store was that it is "information they already know," followed by "just don't read it."

Chart 2-10

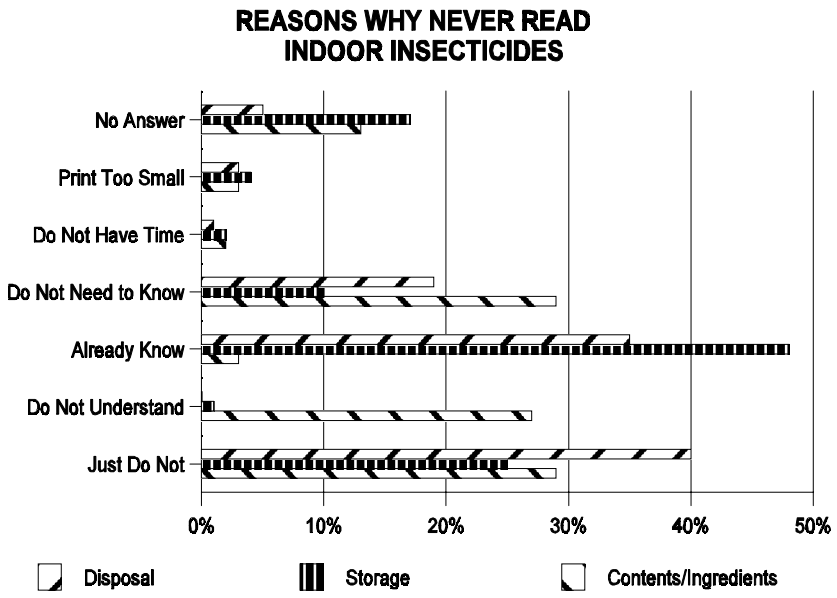


Table 2-15: Reasons Why Never Read Indoor Insecticides (%)							
	Just Do Not	Do Not Understand	Already Know	Do Not Need to Know	Do Not Have Time	Print Too Small	No Answer
Disposal (150)	40	0	35	19	1	3	5
Storage (102)	25	1	48	10	2	4	17
Contents/ Ingredients (200)	29	27	3	29	2	3	13

(Base = All Indoor Pesticide Respondents Who Said They Never Read Storage & Disposal, and Ingredients Information, Out of a Total of 889 Indoor Pesticide Respondents)

Chart 2-11

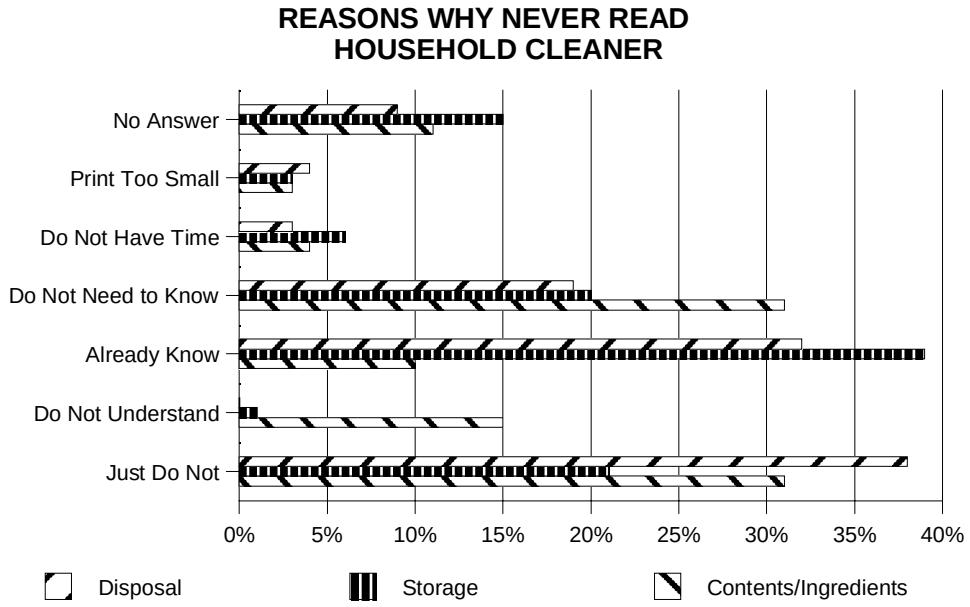


Table 2-16: Reasons Why Never Read Household Cleaner (%)							
	Just Do Not	Do Not Understand	Already Know	Do Not Need to Know	Do Not Have Time	Print Too Small	No Answer
Disposal (216)	38	0	32	19	3	4	9
Storage (131)	21	1	39	20	6	3	15
Contents/ Ingredients (201)	31	15	10	31	4	3	11

(Base = All Household Cleaner Respondents Who Said They Never Read Storage & Disposal, and Ingredients Information, Out of a Total of 894 Household Cleaner Respondents)

Chart 2-12

REASONS WHY NEVER READ OUTDOOR INSECTICIDES

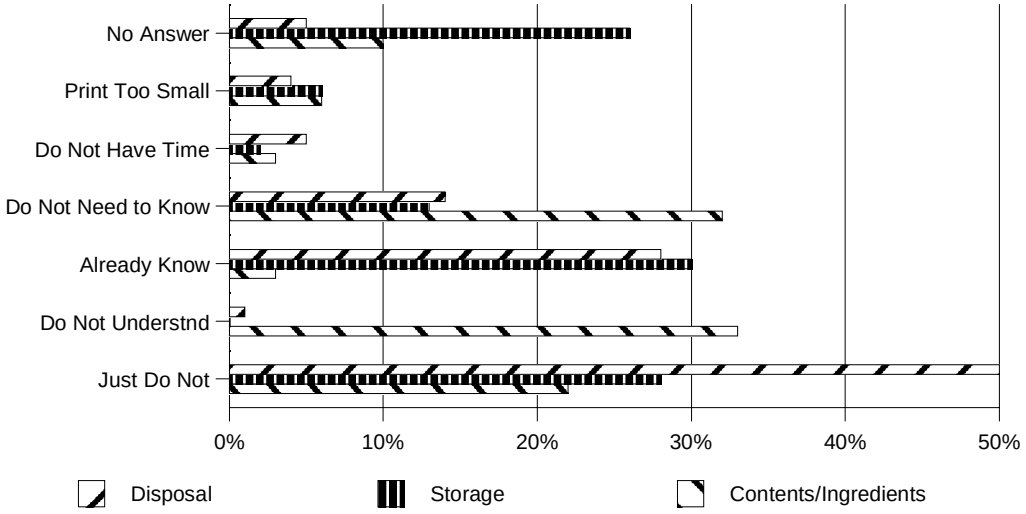


Table 2-17: Reasons Why Never Read Outdoor Insecticides (%)							
	Just Do Not	Do Not Understand	Already Know	Do Not Need to Know	Do Not Have Time	Print Too Small	No Answer
Disposal (93)	50	1	28	14	5	4	5
Storage (54)	28	0	30	13	2	6	26
Contents/ Ingredients (127)	22	33	3	32	3	6	10

(Base = All Outdoor Pesticide Respondents Who Said They Never Read Storage & Disposal, and Ingredients Information, Out of a Total of 846 Outdoor Pesticide Respondents)

23. The following represents the findings of an "open-ended" question regarding methods of disposal:[6]

- In all three categories, most respondents disposed of pesticides and cleaner products or packages in the trash;
- Household cleaner users recycled more frequently than those responding in the indoor and outdoor product categories;

[6]It is not known whether respondents were referring to the disposal of containers, unused product, or both.

- One in ten outdoor pesticide users disposed through special collections, which is more than users of indoor insecticides and cleaners;
- Less than 10% overall used special collections;
- Cleaner users found it acceptable to dispose of products/residues down the drain;
- Few users indicated that they disposed of products down the drain or diluted and used them up; and
- Virtually no consumers said they call the city or county for disposal advice;

24. There were no significant differences in responses from respondents in the states with strong household hazardous waste programs, versus those respondents from states that do not have strong household hazardous wastes programs.

Implications Regarding Storage and Disposal Information

A. Storage and disposal issues are of low priority and are not important to consumers.

Findings on Recycling Claims and Symbols (Chart 2-13, Table 2-18)

25. A high percentage of survey participants responded either "Not really sure" or gave an incorrect response for every question under each symbol. This was true even allowing for local recycling programs that might make some answers correct for panelists in those localities.

Chart 2-13

WHAT DO YOU THINK THIS ICON/PICTURE MEANS? (Plastic Material Code)*

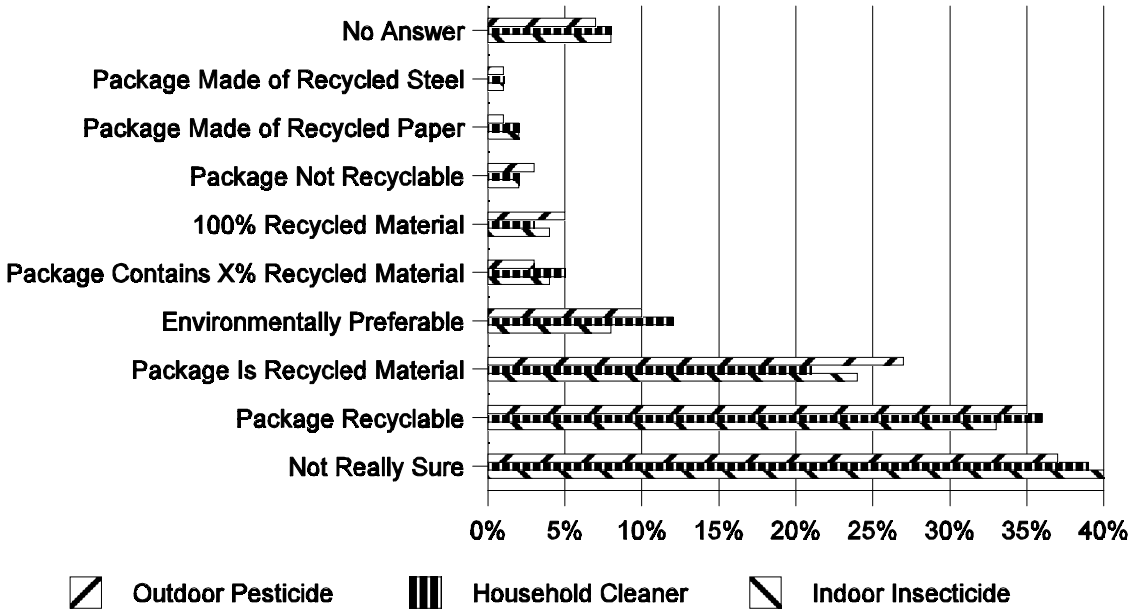


Table 2-18: What Do You Think This Icon/Picture Means?(%)*

	Not Really Sure	Package Recyclable	Package is Recycled Material	Environ-mentally Preferable	Package Contains X% Recycled Material
Outdoor Pesticide	37	35	27	10	3
Household Cleaner	39	36	21	12	5
Indoor Pesticide	40	33	24	8	4
	100% Recycled Material	**Package Not Recyclable**	**Package Made of Recycled Paper**	**Package Made of Recycled Steel**	**No Answer**
Outdoor Pesticide	5	3	1	1	7
Household Cleaner	3	2	2	1	8
Indoor Pesticide	4	2	2	1	8

(Base = All Respondents)

* Please refer to Question 9 on the mail questionnaire, Appendix 2-4

26. The symbols with descriptive language (e.g., "100% Recycled Paperboard") did provide some improvement in response accuracy. However, the correct response rate was less than 75% in every case and usually less than 60%.

27. For the HDPE question, there was no answer selection for the type of plastic from which the package was made. This confounded the interpretation of responses to that question, since respondents may have felt compelled to provide some other answer.

28. The demographic groups and other subgroups that demonstrated more capability for reading and understanding labels identified the correct responses for these symbols more frequently. These same consumers also tended to view products bearing these symbols as environmentally preferable.

***Implications* Regarding Recycling Claims and Symbols**

A. The effectiveness of the tested symbols in communicating with the general public is not great. However, this seems to be related to the complexity of the messages carried and the lack of a compelling motivator to learn.

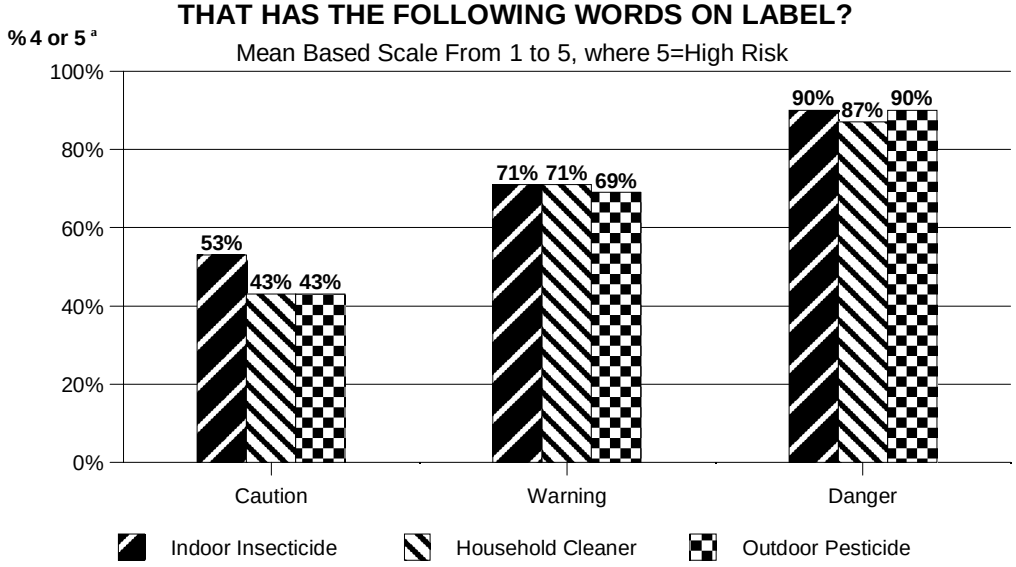
B. The positive correlation of comprehension with additional information in the symbol and inferred environmental benefit indicates that these are motivators for some consumers.

***Findings* on Product Label Signal Words (Chart 2-14, Chart 2-15, Chart 2-16)**

29. Respondents understood that the terms DANGER, WARNING, and CAUTION characterize a level of risk or personal hazard. They understood the three terms to be generally relative, with DANGER describing the highest risk, WARNING a medium risk, and CAUTION a lower risk. Respondents also perceived the range of risk described by the three words to start at a medium, rather than at a low, risk level. Even CAUTION was perceived by over half of the respondents to describe a lower to moderate level of risk, not a low risk.

Chart 2-14

WHAT LEVEL OF RISK DO YOU ASSOCIATE WITH A PRODUCT THAT HAS THE FOLLOWING WORDS ON LABEL?

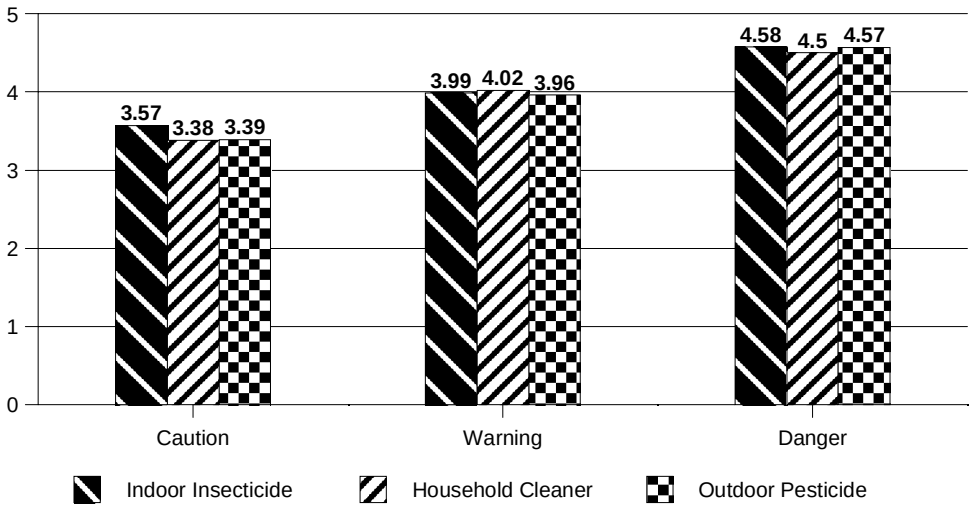


(Base = All Respondents)

a Percent of respondents who associated the signal words with a level of risk of four or five.

Chart 2-15

WHAT LEVEL OF RISK DO YOU ASSOCIATE WITH A PRODUCT THAT HAS THE FOLLOWING WORDS ON LABEL?
Mean Based Scale From 1 to 5, where 5=High Risk

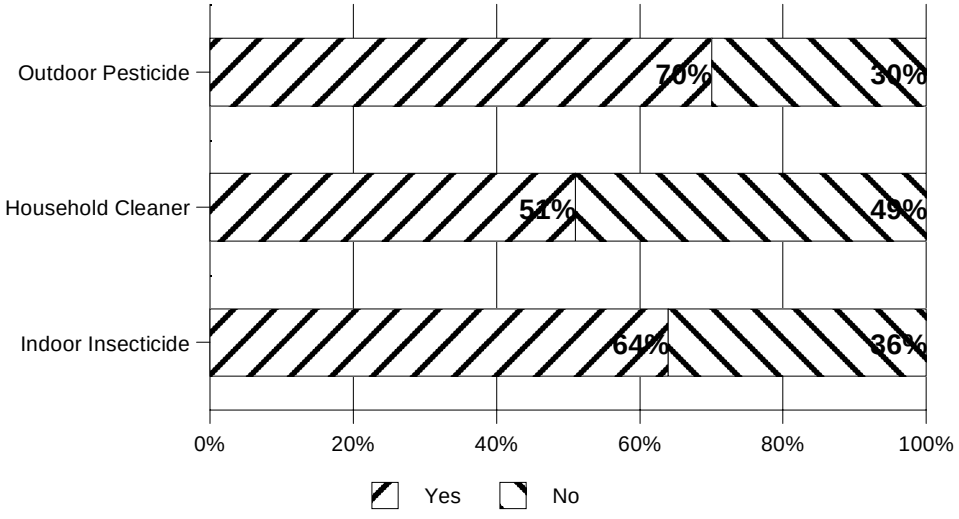


(Base = All Respondents)

30. None of the respondents mentioned the signal word as one of the things they use to determine the possible harmful effects of a product.

Chart 2-16

WHEN SHOPPING DO YOU LOOK ON PRODUCT PACKAGING FOR POSSIBLE HARMFUL EFFECTS?



(Base = All Respondents)

31. Just under half of respondents agreed either completely or somewhat that the words CAUTION, WARNING, and DANGER *on a product* mean the same thing to them.

***Implications* Regarding Signal Words on Product Labels**

A. Consumers do not understand the EPA's purpose for using signal words.

B. All three words convey some level of concern.

***Findings* on Respondents' Sources of Information and Education (Chart 2-17, Table 2-19)**

32. Besides the packaging, respondents identified the top sources to which they referred for product information to be (see Chart 2-17):

- Indoor insecticides — store displays, TV ads, friends/family/co-workers, product brochures, and magazine ads;
- Outdoor pesticides — store displays, product brochures, friends/family/co-workers, store salespersons, and TV ads; and
- Household cleaners — TV ads, friends/family/co-workers, store displays, magazine ads, product brochures;

33. One in five outdoor pesticide users would contact a university or county extension service for more information about a product.

Chart 2-17

BESIDES PACKAGING WHERE ELSE DO YOU GET INFORMATION ABOUT THE PRODUCTS YOU USE?

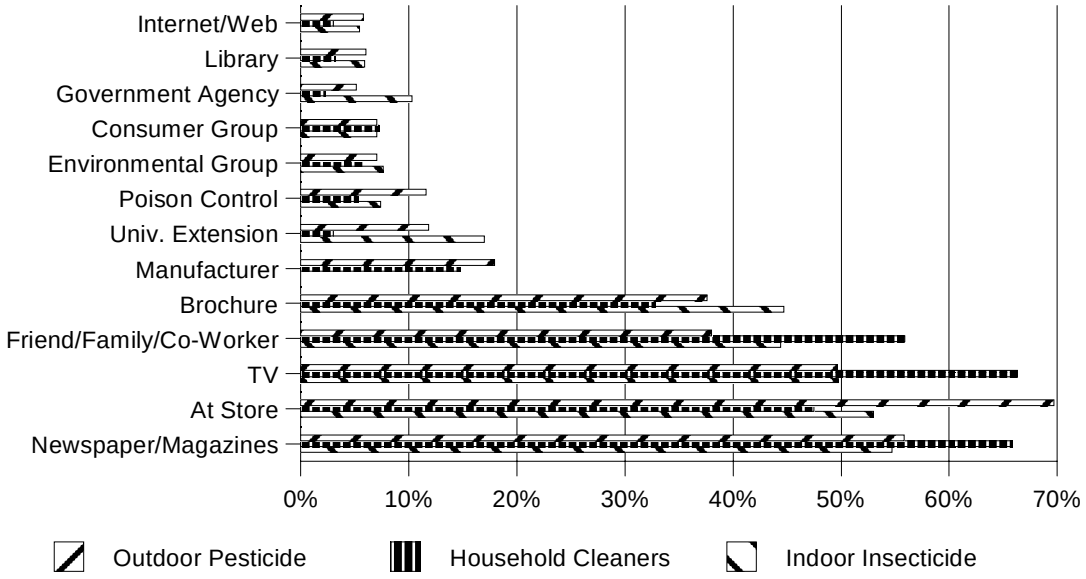


Table 2-19: Besides Packaging Where Else Do You Get Information About the Products You Use? (%)

	Newspapers/ Magazines	At Store	TV	Friend/ Family/ Coworker	Brochure	Manufacturer	University Extension
Outdoor Pesticide	54.7	69.7	49.1	44.4	44.7	16.8	17.0
Household Cleaner	65.8	47.5	66.3	55.9	32.7	14.7	3.0
Indoor Pesticide	55.8	53.0	49.6	38.0	37.6	17.9	11.8

	Poison Control	Environmental Group	Consumer Group	Govern-ment Agency	Library	Internet/ Web
Outdoor Pesticide	7.4	7.6	7.0	10.3	5.9	5.4
Household Cleaner	5.3	5.6	7.2	2.2	3.1	3.0
Indoor Pesticide	11.6	7.0	7.0	5.1	6.0	5.8

(Base = All Respondents)

***Implications* Regarding Respondents' Sources of Information and Education**

A. Consumer education and information efforts should design and deliver to the sources that people use.

B. Consumers expect to get information through traditional means, rather than seeking it through companies or the government.

C. Extension agents are also a target audience for the consumer education program.

***Findings* on Ingredients Information (Chart 2-18, Chart 2-19, Chart 2-20, Chart 2-21, Table 2-20)**

34. Approximately 90% of the telephone survey respondents were able to find and properly identify the ingredients/contents section of the label for all three product categories. The ability to find this section on the cleaners label, however, was significantly lower than on the other labels. Demographic subgroups did not show any surprising subgroup trends in their ability to find this label section.

35. After trying to find various sections during the phone survey, nearly 90% of the respondents stated that label information was positioned where they expected it to be. There were statistical differences among all categories, with satisfaction being greatest with outdoor pesticide and poorest with cleaners, although cleaners still received an 87.6% affirmative response. Of the specific requests for change, the highest was "ingredients should be on the back label." However, only 2 to 4% of all respondents voiced that request.

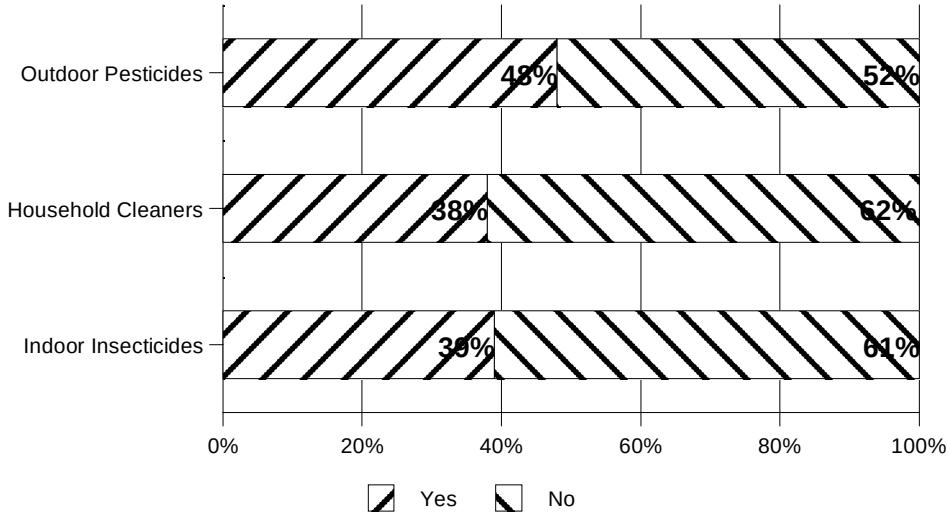
36. In all three product categories, of those respondents who never read the ingredients section (approximately 25% for all categories), an unusually high percentage of them did not read it because they did not understand the information in the section.

37. When asked if they look for ingredient information, approximately 40% responded affirmatively for the household cleaner and indoor insecticide product categories, but a statistically higher percentage (48%) answered "yes" in the outdoor pesticide category. The most prominent reason for reading this section was product comparison. However, approximately 15% claimed concern for health of a family member; this was higher (and the difference statistically significant) for indoor pesticide and household cleaners.

38. In all three product categories, few survey respondents specified a label change request, but the highest response (~3%) was "list all ingredients."

Chart 2-18

WHEN SHOPPING DO YOU LOOK FOR INFORMATION ABOUT THE INGREDIENTS?



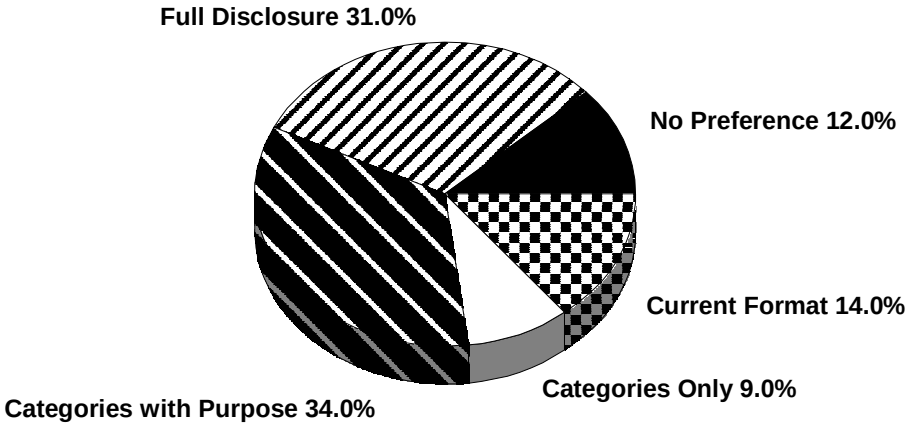
(Base = All Respondents)

Table 2-20: Why Do You Look for Information about Ingredients?		
Indoor Insecticide (n=343)	**Household Cleaner (n=338)**	**Outdoor Pesticide (n=408)**
I want to compare different products **66%**	I want to compare different products **64%**	I want to compare different products **57%**
I or another household member want to avoid using certain chemicals because of allergies or other health related reasons **41%**	I or another household member want to avoid using certain chemicals because of allergies or other health related reasons **47%**	I'm looking for the name of a specific ingredient **30%**
I'm looking for the name of a specific ingredient **38%**	I'm looking for the name of a specific ingredient **25%**	I or another household member want to avoid using certain chemicals because of allergies or other health related reasons **27%**
I want to know the scientific names of the ingredients **22%**	I want to know the scientific names of the ingredients **16%**	I want to know the scientific names of the ingredients **14%**

(Base = All Respondents Who Said They Look for Ingredient Information While Shopping)

Chart 2-19[a]

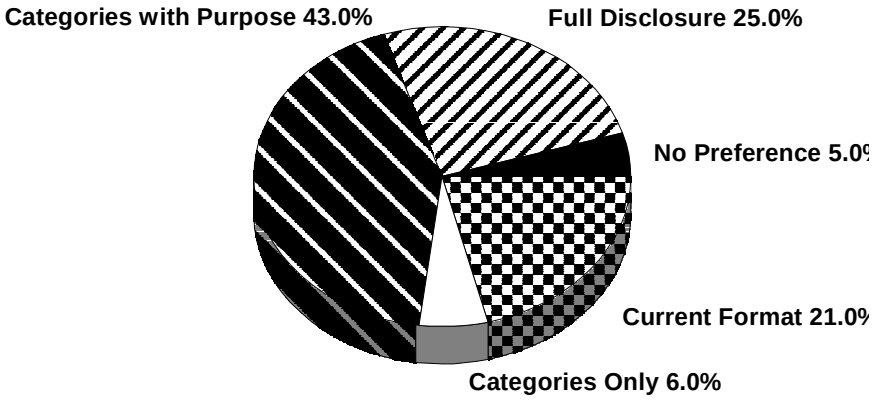
IF AN INDOOR INSECTICIDE LABEL WERE TO PROVIDE YOU WITH ADDITIONAL INFORMATION ABOUT INGREDIENTS, WHICH OF THE FOLLOWING WOULD YOU PREFER?



(Base = All Respondents)

Chart 2-20[a]

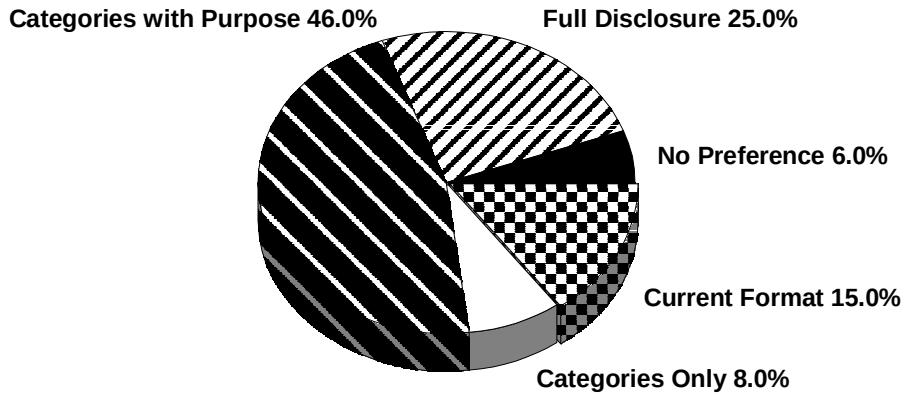
IF A HOUSEHOLD CLEANER LABEL WERE TO PROVIDE YOU WITH ADDITIONAL INFORMATION ABOUT INGREDIENTS, WHICH OF THE FOLLOWING WOULD YOU PREFER?



(Base = All Respondents)

Chart 2-21[a]

IF AN OUTDOOR PESTICIDE LABEL WERE TO PROVIDE YOU WITH ADDITIONAL INFORMATION ABOUT INGREDIENTS, WHICH OF THE FOLLOWING WOULD YOU PREFER?



(Base = All Respondents)

[a] (For charts 2-19, 2-20, and 2-21) Please refer to Question 4c in the mail questionnaires in Appendix 2-4.

39. When given a choice of "ingredients" formats, three out of four respondents chose less than full disclosure (providing names and % of all ingredients). Options listing categories of ingredients along with a description of the purpose of the ingredients were preferred.

40. One in eight respondents used the ingredient statement to determine possible harmful effects from the ingredients listed.

41. In each of the three product categories, the phrase "other ingredients" was not fully understood.

42. "Ingredients" was ranked seventh among sections for importance, but well below the top six in all three product categories. It was also infrequently cited as a section to be found most easily.

43. The label preference for the ingredients section of the FIFRA vs. non-FIFRA cleaners label was comparable to the overall preference (58% favoring FIFRA) and the highest preference for FIFRA labeling of the individual sections tested.

***Implications* Regarding Ingredients Information on Product Labels**

A. Characteristics of the cleaner label make it somewhat more difficult to find the contents statement on that label. Cleaners are perceived to be inherently different than pesticides.

B. Consumers are likely to be satisfied with current placement of ingredients if the format and purpose of this section are clear.

C. Consumers do not know how to use the ingredients statement as currently presented.

D. Ingredients are easier to find and read in tabular form on the front label panel.

E. While a small group of people have a strong desire for full ingredient disclosure on labels, full disclosure is not required to meet the needs most consumers cite for ingredient information.

F. Ingredients are sometimes relied upon as a surrogate for hazard information.

***Findings* on Respondents' Attitude Toward Product Categories**

The following table captures reactions to consumer values in the attitude battery for each of the three product categories. (Please refer to question 11 in the indoor insecticide and outdoor pesticide mail questionnaires and question 12 in the household cleaner mail questionnaire in Appendix 2-4.)

ATTITUDE BATTERY KEY

- Number on top left of each cell indicates percentage of respondents who said they "agree completely" with the statements given.
- Number on top right of each cell indicates percentage of respondents who said they either "agree completely" or "agree somewhat" with the statements given.
- Number in the middle center of each cell indicates the deviation from the mean. The higher the deviation, the more strongly the attitude is held.
- [Brackets] indicate a negative deviation from the mean.

Table 2-21: Statements Regarding Respondents' Attitude Toward Product Categories

Statement	Indoor Insecticide	Household Cleaner	Outdoor Pesticide
It is important that the packaging tell me how soon I/my children/pet can re-enter the treated area	-	-	65.4 93.5 1.56
Labels should say whether the product should not be used by or around pregnant women	60.2 89.5 1.46	53.5 85.2 1.34	56.2 87.2 1.38
The level of harmful effects of a product plays a role in deciding which product I purchase	49.2 82.3 1.26	35.2 77.0 1.05	44.0 81.7 1.19
It is important to know the minimum time before I can safely re-apply the product	38.2 86.0 1.20	-	-
I know how to use so there is no need to read the label	1.6 12.1 [1.02]	1.6 12.8 [0.86]	0.6 4.7 [1.31]
Using product safely is common sense	40.2 83.2 1.10	40.8 84.3 1.14	32.9 78.3 0.91
The more product I use at a time, the more effective it will be	1.3 8.4 [1.03]	0.8 8.4 [0.93]	0.7 7.5 [1.05]
No need to worry about storage if CR closure is used	4.1 14.7 [1.00]	7.6 19.1 [0.79]	3.6 11.0 [1.18]
Unused product should be disposed down the drain	4.6 11.1 [1.08]	20.3 46.6 0.23	1.6 3.0 [1.54]
I know what to recycle so I don't need to read the label	3.1 10.9 [0.91]	2.5 16.7 [0.66]	1.3 7.0 [1.08]

Table 2-21: Statements Regarding Respondents' Attitude Toward Product Categories			
Statement	**Indoor Insecticide**	**Household Cleaner**	**Outdoor Pesticide**
I don't worry about chemicals in products	5.0 17.9 [0.92]	4.0 22.4 [0.66]	3.2 16.5 [0.94]
Would like information on long term effects on label	32.6 71.9 0.95	25.1 58.6 0.66	30.1 67.5 0.87
I always purchase the least harmful product	32.1 67.2 0.86	25.4 57.7 0.65	34.3 68.4 0.89
It is more important to me to know which ingredients might be more harmful than how effective they are	31.6 68.5 0.81	-	27.6 63.7 0.69
Peel open label has more information than flat label	-	-	26.6 65.5 0.80
Repeat as necessary means reapply as soon as see bugs	26.9 69.1 0.76	-	-
Overall satisfaction with current label information	15.2 68.7 0.73	11.4 64.8 0.64	10.1 64.4 0.62
I feel more comfortable if all ingredients are listed	26.9 52.8 0.58	24.4 55.2 0.60	27.4 57.9 0.63
Need more information on how much or how long to apply for desired result	17.9 57.9 0.56	-	-
For disposal, I rely more on experience than the label	5.3 26.4 [0.45]	6.6 35.4 [0.19]	1.9 17.7 [0.84]
For use, I rely more on experience than label	5.7 29.8 [0.31]	7.2 43.0 0.05	1.5 14.7 [0.86]
It is necessary to wrap in paper before disposal	17.3 35.6 0.14	5.7 16.1 [0.51]	19.3 47.9 0.46
Easy to find product information I need	12.7 59 .5 0.52	11.6 57.1 0.50	10 7 53.8 0.40
Information on the label is hard to understand	10 8 49.2 0.24	8.2 44.7 0.20	13.0 57.5 0.46
The government insures the product is safe to use	7.4 36.3 [0.10]	5.7 27.0 [0.32]	3.8 25.8 [0.40]

Table 2-21: Statements Regarding Respondents' Attitude Toward Product Categories			
Statement	**Indoor Insecticide**	**Household Cleaner**	**Outdoor Pesticide**
If I can buy in trusted store, the product must be safe to use	15.3 36.8 [0.08]	12.6 30.8 [0.22]	9.5 25.5 [0.40]
Fewer possible harmful effects means poorer performance	4.0 26.9 [0.24]	2.3 16.2 [0.48]	7.2 39.1 0.12
I read labels because a household member has allergy/ health problem	19.1 34.8 [0.15]	13.4 28.2 [0.34]	12.1 27.1 [0.35]
Disposal instructions on the label don't agree with my community	3.6 15.9 [0.29]	2.2 22.0 [0.12]	3.1 15.0 [0.31]
It's OK to open the peel open label in the store	-	-	23.7 48.4 0.29
The manufacturer assures product safety	11.6 38.4 0.03	10.2 38.3 [0.02]	6.3 29.8 [0.30]
I don't need complete listing of ingredient Information; I don't understand it anyway	12.4 41.7 [0.03]	8.3 37.3 [0.10]	8.4 34.9 [0.25]
Environmental or natural products often don't work well	6.0 40.0 0.08	3.5 29.6 [0.14]	6.0 36.2 0.03
CAUTION/ WARNING / DANGER all mean the same thing to me	16.2 48.4 0.07	15.9 49.0 0.11	13.9 44.0 [0.06]

<u>Findings</u> are as follows:

44. The highest response to attitude questions was for personal health and safety information and for instructions, especially those associated with safe use.

45. The consumer attitude toward household cleaners was different from attitudes toward the other two product categories. Significant differences were found from both indoor insecticides and outdoor pesticides in about 60% of the questions, and at least one other category in about 95% of the questions common to all categories.

46. In approximately two-thirds of the questions common to indoor insecticides and outdoor pesticides, there was a significant difference in attitudes between those two product categories.

47. The largest numerical differences in response were those for down the drain disposal, knowing what to recycle without label assistance, and greater reliance on experience than

label information for either disposal or use. In each case, respondents showed much less concern and/or greater familiarity for household cleaners.

48. Respondents understood that cleaners may be disposed of down the drain but indoor insecticides and outdoor pesticides should not be.

Implications Regarding Respondents' Attitudes Toward Product Categories

A. Household cleaners are perceived to be lower risk than pesticides in both use and disposal. Consumers are much more familiar with these products and are less likely to read the label for information.

B. Indoor insecticides are more familiar to respondents than outdoor pesticides so the comfort level in using those products is greater. However, the indoor usage is associated with greater concern about health effects.

C. Consumers want specific information on use of these products so they can assure personal, family, and pet safety while getting the desired performance.

Findings on Germ Killing Potential Information

49. Respondents were asked to rank, from high to low, the germ killing potential of each of the following terms: deodorizer, cleaner, sanitizer, anti-bacterial, and disinfectant. Respondents indicated the germ killing power of each individual term, and generally ranked all the terms in the correct order. The exception, however, was that respondents saw "anti-bacterial" as having more germ killing potential than either disinfectants or sanitizers, when, in fact, "anti-bacterial" refers to any product which kills bacteria.

50. When asked on the phone survey to define "disinfection," over 80% of respondents answered correctly.

Findings on Product Category Comparisons

51. The labels of household cleaners are less completely read than those of indoor insecticides and outdoor pesticides. Fewer consumers routinely read any section of the label on cleaners except the brand name.

52. For household cleaners label readers:

- Brand name is of higher importance, and
- Health and safety information of lower importance.

53. For all sections of the label, the indoor insecticide product label was found to be more effective in communicating the right amount of information with a greater specificity.

- *Active and Other Ingredients* — indoor insecticide better than both household cleaner and outdoor pesticide,
- *Directions for Use* — indoor insecticide better than outdoor pesticide and much better than cleaner,
- *Storage and Disposal* — outdoor pesticide worse than either indoor insecticide or household cleaner,
- *Precautionary Statements* — both indoor insecticide and outdoor pesticide better than household cleaner, and
- *First Aid* — both indoor insecticide and household cleaners better than outdoor pesticide.

54. About twice as many consumers had purchased cleaning products as had purchased either indoor insecticides or outdoor pesticides.

55. Many more consumers disposed of unwanted household cleaning products and/or containers by rinsing out, pouring down the drain, throwing in the trash unwrapped, and recycling. The indoor insecticide and outdoor pesticide products and containers were wrapped before being placed in trash much more than household cleaners were.

***Implications* Regarding Product Category Comparisons**

A. Household cleaners have greater familiarity and lower perceived risk for consumers. This results in more purchasing by brand name and less label reading. The most effective labels are on indoor insecticides, possibly because these labels are routinely read by consumers with a higher level of concern.